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EARL K. LONG
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F. L. CLEMENT
Director

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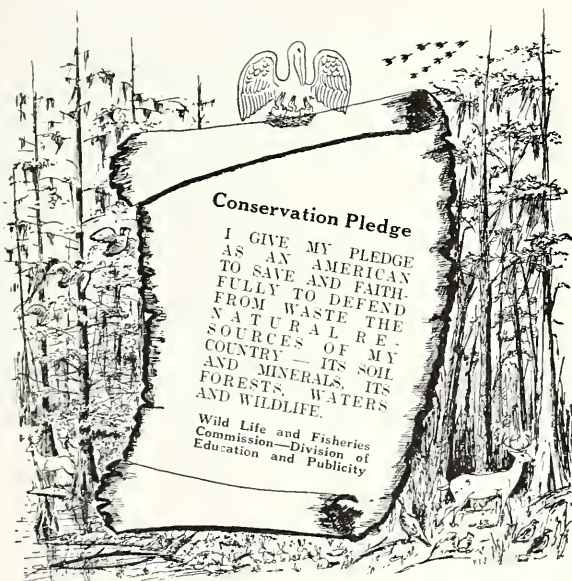
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EDITORIAL

By F. LAMAR CLEMENT

Director

Louisiana Wild Life and Fisheries Commission

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COVER

They call him little Sir Gecko when seen around the eaves of homes in the New Orleans area, but his correct title is *Hemidactylus turcicus*. Sir Gecko brings to an even dozen the number of lizards known to live within borders of Louisiana.

(photo by Britt)

WHAT IS OUR priceless heritage? Liberty . . . our democratic way of life . . . our four freedoms . . . all these are priceless, but we have still another priceless heritage, our God-given fish and game. Have you ever stopped to think that without the great abundance of fish and game in America, there would have been no United States. The Pilgrims didn't bring the wild turkey, the deer, the quail, the rabbit, the squirrel or the fish in the lakes and streams. But because there *was* game and fish in great plenty the Pilgrims and the settlers who came after them were able to live and prosper.

For countless centuries before the white man came to North America the Indian practiced true sportsmanship and conservation. He killed only what he needed for food, for clothing and his other simple wants. The first white settlers followed the same rule . . . they killed what they needed, but as the white population increased so grew the greed and avarice of the new American, and so began the slaughter that brought fish and game laws into existence.

The great buffalo herds disappeared from our Western plains; market hunters killed by the hundreds and thousands our wild waterfowl, our wild turkeys, our deer, quail, every wild thing on which there was a value, and no one seemed to care.

Then suddenly there was an awakening. Our game was gone, or so rare that it was a foregoing conclusion that it would soon be entirely extinct. Our streams and lakes had been fished out . . . there was almost nothing to hunt and fishing required long hours or patient effort for even a meager catch. At once there was set up a hue and cry for conservation. Sportsmanship became a quality to be reckoned with. Fish and game management and wildlife conservation became vital factors in state government. Conservation laws were enacted and enforcement became an absolute necessity, although a bitterly hated institution. It was life's same old story, the barn had been locked after the horse had been stolen.

Louisiana was no exception. Once a hunter's and fisherman's paradise, Louisiana faced a future without the whistle of the bobwhite . . . without the throaty "truk, truk" of the feeding wild turkey . . . without the flash and wag of the deer's white tail as the buck or the doe disappeared into the brush or the marsh canes . . . without the flash of the bass in the shady stream.

A new horse had to be bought . . . in this case fish and game had to be restocked, and the barn must be *kept* locked against thieves. An extensive restocking program got underway, hundreds of thousands of dollars were being spent to replace the fish and game that was sacrificed on the altar of some men's greed, and greater emphasis has been put on the word "sportsmanship".

But the best planned re-stocking program, the most generous importation of game, and the most enthusiastic efforts of conservation officials and game managers, will all go for naught without the support and cooperation of you, the people. The aid of the fishermen and the sportsmen is of untold value, but this is not enough. Violators do not belong to bona fide sportsmen's clubs. Game hogs care nothing for the tenets of good sportsmanship, or the laws they flaunt so flagrantly, unless they are made to suffer in a way that will not only touch their pocketbook, but restrict their movements. Most of them are immune, even, to shame. But if they were made to realize that every man and woman in this state was a self constituted guardian of Louisiana's fish and game, and determined to protect it as much as they protect their livestock, their poultry and their homes, there would be an immediate falling off of game law violations.

There are some who speak of a chap who always brings back his limit of game or fish as a sportsman, but a real sportsman takes what he needs, not what he can get. We have passed the stage where it is necessary to hunt and fish to sustain life, but the urged to kill still beats strong in the breast of modern man. As a result our wildlife has taken a terrific beating, and unless our hunters and fishermen pledge themselves to moderation, to strict observance of our fish and game laws, our priceless heritage that nature bestowed upon us will soon be entirely dissipated.

Sportsmanship is a lot of things all rolled into one, fair dealing, law observance, teaching your children to be good sportsman, and doing your part to bring back the priceless heritage that God bestowed upon Louisiana.



Let's Go Fishin'! Filled with hope and rarin' to go, the boat is shoved out into deeper water where the outboard can be started.



The rig on the left may be cast easily on a spinning rod while the rig on the right which includes a chugger may be used successfully on a casting rod. Work the lures slow and quietly for best results.

Bugging

For

Bream

By W. C. Goins

AS I SHOVED the boat out from the landing, I did so with much anticipation. The weather was ideal and only a slight breeze was blowing which would tend to make bass fishing better since the water was unusually clear. Between rains, the water in Cross Lake is always clear in the spring-time as the algae content is not too high at that time of year.

This trip I was after more than bass although bass were primarily my target. A close friend of mine had asked me to try out a new lure he had been experimenting with and both my casting rod and my spinning outfit sported these lures. While this friend, whom I will call George, had been very successful with his lure, this was a new model that floated while at rest and he was anxious to see what I could do with it.

My outboard, which was getting on in years, finally coughed into action and I was on the way. Heading upstream

after reaching the open water, I opened the throttle as it was about a mile to where the fishing was best, according to the latest news. Harry, the local television sportscaster, had announced on his Friday evening program that the upper end of the lake was best for bass fishing and I was determined to give the new lure a good tryout in the most likely place.

As I nosed the boat between Twin Islands I began to have misgivings. The memory of the many bass and barfish I had taken right here in past years made the spot hold a certain attraction that was hard to overlook. However, I steeled myself against the urge and kept going as my goal was in sight.

Finally, rounding the point of land that jutted out some distance into the lake, I could see the familiar old cypress tree that had withstood the ravages of winds, waves, and time and it was from this point that "operation bass" would begin. The water at the base of this tree hardly ever failed to produce a bass when the lure was presented properly and I could see no reason to expect anything different this time.

Spinning rod or casting rod? Which will I use first, I mused. They were both decked out with a model of the new lure. Naturally, the spinning outfit won the nod as there was nothing in sight on which a bass would likely tangle my six pound test monofilament line.

A cast to the right side of the tree failed to produce and after about three casts, I moved to the left side. On this lake, the bass are usually found near the bases of the trees but the wobbling type lures must be cast past where the bass will be and brought back by his dinner table in action. On my second retrieve by the left side, the 7½-foot glass rod took on a definite bend and I was in business, or so I thought. He came in very readily and when I brought him alongside, I could see why. The bass was hardly ten inches long, so, back he went.

As I reached for my paddle to move on a bit I noticed the wind had increased considerably. It was from the south and coming upstream from the landing, I would naturally not notice it. I was not too concerned however, as on ahead a short distance, the lake was filled with a dense cypress growth which would offer adequate protection from the wind.

As I "sculled" the boat along with the wind I came to

a small stand of willows and button bushes which really looked "bassy" and when I spied a long narrow opening between them I knew there had to be a bass in there.

The wind was still increasing so I reached for the casting outfit and released the click on the reel. On the first cast a bass came boiling out from under a button bush and smacked the lure while it was still at rest. Although he sounded like a shotgun when he hit the lure, he too was a small one that was released.

A few more casts around the willows and button bushes produced three more bass, all small and I wondered what had happened to all the large ones. Maybe it just isn't my day, I thought, but when I paddled out into the open water once more my wonder mounted. The wind was now blowing at about 20 miles per hour and the lake was becoming rough. When I cranked the outboard, the splash from the waves showered me but good and I headed for the wooded area and protection.

Winding my way between the trees I soon reached a small opening that looked good and here the wind was hardly noticeable. Although the treetops were swaying, the water was calm and undisturbed. Here, I thought, I could do some fishing. A few casts later, however, I wondered if there were any bass in the area. They could be heard quite regularly as they gorged themselves on the bream back in the button bush thickets through which no boat could navigate. The bream were plentiful in this area and as I approached the thicket, they could be heard often as they smacked insects



Ready, willing, and able, this bream went for the bug without hesitation.

landing on the surface. The wind was dislodging the insects from the trees and the feeding tempo was increasing.

I began to wonder about these bream. My mind wandered back to my childhood days when I used to catch them on worms from a small creek that ran along two sides of our farm. Why not, I thought, why not, indeed? In the first place I had no cane pole; in the second place, no worms.



He thought it was a bug and he was right. Artificial, however.

Don't fishermen take them on artificials, I mused? Certainly so, and it so happened that my tackle box was well stocked. Popping bug, I thought. That ought to do the trick.

Now came the question. How am I to cast a bug small enough for a bream to take with a casting or spinning outfit?

As I tried to remember back along my long bass fishing experience a bream smacked a small dragonfly near the boat. When his beautiful red-speckled side was exposed to the sunlight, I knew I had to devise some way of catching at least a few of these.

My memory carried me back a ways. All those bass I had taken on a popping bug on Lake Bistineau! This is it! This method which is accomplished by tying a bug about eight to ten inches behind a chugger with a piece of leader material is very effective on the bass.

Hastily, I rigged up and cast to the nearest boil. A few twitches on the rod tip and the bream headed for parts unknown. After a few more tries I realized I was scaring them off. Reeling in, I examined the rig. The chugger was hollowed out in front to make a loud popping noise. Maybe this was the trouble, I thought.

There was only one thing to do in a case like this. Breaking the rig off, I reassembled it. This time I would be retrieving the chugger in reverse. This way, the noise would be kept to a minimum. The popping bug was now tied to the business end of the chugger.

The next cast left little to be desired. A couple of twitches

(Continued on Page 5)

CRAWFISH

BLUES

By Ednard Waldo

IF YOU SHOULD happen to run across a blue crawfish while sitting down before a dish of the tasty crustaceans, don't be alarmed, it isn't the beer, it's the crawfish — that is, the crawfish may really be a blue one and just about the same shade of blue as your telephone directory.

So says Dr. George Henry Penn, Associate Professor of Zoology of Tulane University who has been on the track of the colorful mudbug ever since he saw the first one seven years ago. The professor, who has been studying the life history, habits, and classifications of the two hundred or so different kinds of crawfishes which occur all over North America says that reports of the blue crawfish have been coming more frequently since that day in April, 1950, when his credulity was sorely taxed by a man on the other end of the telephone who reported having caught a "blue crawfish."

The specimen was later brought in for the doctor's inspection by Claude Meyers, of New Orleans, who had caught several sacks of *Procambarus clarkii* (that's eating crawfish) and discovered the blue one among them. The living specimen was found to be a *Clarkii* or commercial crawfish and normal in every respect except for its coloration. Dr. Penn made several kodachrome pictures and the crawfish was preserved in alcohol and it immediately faded and along with it the scientist's hopes.

However, one year later, a second blue crawfish was brought in alive by Mrs. H. F. Dognibene who had caught it in her yard in the east Gentilly section of New Orleans. Excepting its blue color the specimen was a normal mature *Clarkii* and the color corresponded well with the kodachrome of the first and appeared to be the nearest to the "French Blue" given in the chart of the British Colour Council and Royal Horticultural society. This proving conclusively that the crawfish was "no foolin'" blue.

The color and color patterns of crustaceans generally are



Harry Gieffers, Chief Cashier of the State Tax Collectors office, is seen wondering if this crawfish turned "blue" when he found out he was in the hands of a publican. The blue crawfish which is one of two caught by Gieffers is being studied by biologists.

determined by the distribution and relative abundance of pigment bearing chromatophores, Dr. Penn says. In crawfish there are two types, red and white. Each chromatophore is a many-branched cell lying beneath the cuticle (shell) of the crawfish. The color of the crawfish depends upon the dispersion of the pigment within the chromatophores. If the pigment is concentrated the crawfish appears lighter in color than if the pigment is completely dispersed throughout each chromatophore. Color patterns generally depend upon the distribution of the individual chromatophores of any particular color and aggregations may produce patterns of spots, stripes, etc.

Most crawfishes have a transparent or translucent shell through which the chromatophores may be seen. However, in some species, there are patterns of color actually within the material making up the shell. This pattern, then, is superimposed on the color determined by the chromatophores. Thus the shell of this crawfish being in itself blue overshadows the ordinary color pattern and thus we have a blue crawfish.

Since the first discovery, Dr. Penn has secured other live blue specimens and has almost succeeded in getting them to reproduce. He has a specially constructed circular tank in which the crawfish are placed and currents and other native environments are simulated. The last ones Dr. Penn was working on reached the egg producing stage but died and Dr. Penn has sent out the word to all crawfishermen, both amateur and professional, to be on the lookout for the blue crawfish and he would like them brought to the biology department at Tulane live so that he may continue his experiments in an attempt to find out just what has caused the blue crawfish to appear on the scene.

Dr. Penn is not at all disheartened over the first attempts having resulted in the death of his blue crawfish because the laboratory is so equipped that normal living conditions are being simulated there and hundreds of other species of craw-



Dr. George Henry Penn, Professor of Zoology at Tulane University is seen with the special tank in which he will attempt to breed and cross-breed the recently discovered blue crawfish in an effort to determine just what caused their appearance on the piscatorial scene.

fish are living normally and reproducing, under observation, in the many tanks in operation at the laboratory.

Discovery of the first blue crawfish was not only an event at the laboratory but resulted in another amusing revelation. "The day I received the phone call about the blue crawfish I also received another call that someone out in Gentilly had found a pink grasshopper," Dr. Penn says, "I really thought someone was pulling a practical telephone joke or people had gone nuts. However, strange to say, the pink katydid was brought in as was the blue crawfish. And incidentally, we did find another pink grasshopper, but that's another story."

Blue specimens of another species of crawfish have also been reported from West Virginia, he said.

The latest of the blue crawfish to be brought in was one taken in the spillway by Harry Gieffers, chief cashier of the State Tax Collector's office, who caught the crustacean in the Spillway above New Orleans. Gieffers brought the specimen in to the biologists at the Wild Life and Fisheries commission laboratory and admitted that he had caught two in the same spot but that he had left the other with the proprietor of a restaurant who had "begged" it off him. This specimen was sent to biologist Dr. George Moore at Loyola university.

There has been much discussion as to the proper spelling of the name of our lowly mudbug among the intelligentsia and perhaps he would have gone along being called by many other names had he not risen in prominence during the past 200 years to become one of the delicacies sought by countless visitors seeking to revel in the wonders of our Creole cuisine.

In "crawfish" or "crayfish" bisque he is the delight of the gourmet and the pride of Creole and Cajun alike. As a boiled delicacy he is a must at summer get-togethers both outside and inside.

As to the spelling, the name "crawfish" has many backers throughout the United States since the spelling has been traced to the famous zoologist Dr. Say who named the crustacean "crawfish" in 1817. However, the immortal Huxley, who wrote a book on the "crayfish" long after Say, gave this spelling to the English. Huxley traced the name "Crayfish" down

to the French word "écrevisse" which he pointed out entered the English language about the time William the Conqueror conquered England in 1066.

Nevertheless, crawfish or crayfish, the season is on and after a slow start caused by high water and unfavorable weather more and more picnickers are to be seen along the bayous and highways indulging in a sport which is truly democratic. It is a pastime for young and old, rich and poor. There are no licenses or fees and there is absolutely no limit to the catch.

BUGGING FOR BREAM

(Continued from Page 3)

on the rod tip and a red-belly bream took the bug so hard I could imagine him to be a bass. That bream really put up a fight and after I had landed him, I sat there quietly observing his beauty. Another smacking sound from the edge of the button bush thicket roused me from my musings however, and I raised the rod to meet the occasion. This time, the fish was waiting and I soon added him to the stringer.

The boat drifted a few feet to the left and the activity seemed to pick up. Looking up into the bushes, I saw the reason. The bushes were literally covered with may flies, just hatched out, and they were falling into the water by the dozens. Quickly I moved the boat out about 40 feet and tied up to a tree that would keep me at about the right distance.

In my eagerness, my first cast was fouled in the branches overhead. Finally retrieving the lure, I cast into the commotion by the bushes. This time I did not even have to twitch the rod. Immediately it was sucked under and I was fast to another nice one that gave a good account of himself. What could I do with my flyrod, I thought? I didn't have time to think very long, however, since the action kept me busy. The stringer had continued to grow and I was now simply flopping them in the boat.

I was not even aware that the skies had become cloudy until the raindrops began to spatter on the lake's surface. Evidently the wind had changed to the north as this rain was very cold. Wait it out or go in. I thought? After about 15 minutes under a nearby duck blind during which time I continued to get soaked, I decided that enough was enough. After all, I had about 30 nice bream and the fun I had could not be measured or counted.

In a way, this fishing trip had been unsuccessful. I had not really given the new bass lure a good workout as I had promised George I would. I had, however, discovered something that will add hours of pleasure to my future fishing trips. I learned that, at times, you don't have to use a cane pole and worms to catch a nice mess of bream. I also learned that catching bream on tackle not especially designed for them can be a lot of fun.

Time For A Change

The Washington Biological Society, which puts metal bands on wild birds to study their migratory habits, recently ordered new bands with different and more detailed wording.

The new metal bands now read, "Notify Fish and Wildlife Services, Washington, D. C." Formerly the band said simply, "Wash. Biol. Surv."

Unofficial explanation of the change is that an irate citizen's letter complained: "Sir, I shot down one of your pet crows, and followed instructions. I washed it, biled it, and surved it. It was turrible. Stop fooling the people."

Fox Hunters Solve Own Problem

By Mel Washburn

LOUISIANA'S dyed-in-the-wool fox hunters are a group of sportsmen sufficient unto themselves. To the uninitiated this type of sports afield is as meaningless as the voice of the hounds in full cry, but that does not mean that it is a sport unknown to many. In fact, it is a sport as thrilling and as absorbing as any nimrod can devise. Although we hear little of Louisiana's fox hunting activities, it is amazing to learn that entire families find extremely satisfying recreation in this type of hunting without firing a shot.

These things were brought forcibly to mind recently at a combined barbecue and fox hunt staged in the pine grown sand hills near Gardner, Louisiana, by the Central Louisiana Fox Hunters Association and the Southwest Louisiana Fox Hunters Association with more than 300 persons and more than 100 fox hounds keeping the night hours alive with the sounds of the hunt.

This event was staged with a three-fold purpose in mind. The social phase was the barbecue with the assembly grouped around huge bonfires to enjoy a most elaborate feast. The second phase of this event was the determination of the fox hunters to solve their own problem with regard to the eradica-

tion of rabies infected foxes in that part of the state, and the third phase was the enjoyment that veteran fox hunters provided for their compatriots throughout the night as the hounds developed chase after chase, with the ringing voices of the dogs providing an accompaniment that was music to the ears of the veteran hunters.

John H. Deer, of Doyline, Secretary-Treasurer of the Louisiana State Fox Hunters Association, in conjunction with officials of the two associations that staged the hunt, had expressed the opinion that the fox hunters themselves could stamp out any rabies that might threaten to spread throughout the countryside.

Prior to this hunt there had been a move on foot to get the Rapides Parish police jury to sanction the trapping of foxes throughout the area as a precautionary measure, but the fox hunters themselves contended that trapping would destroy as many healthy foxes as infected ones, and probably more, whereas the staging of fox hunts would result in the capture and destruction of only infected animals.

It was also the fox hunters' contention that a sick fox would not run before the hounds and therefore would fall



John Deer of Doyline is showing one of the outstanding young fox hounds sired by U. S. O. champion "Honest" John Cutchin. The young hound has run in a number of field trials, including the Texas open.

a quick and easy prey to the dogs, all of which had previously been inoculated against rabies infection. It was their further contention that the staging of the hunts in any area where rabies had been reported would be a quick and safe way to eradicate unhealthy animals.

At the business meeting that was held after the barbecue and before the fox hunt was started, at which Judson Shows of Ragley presided, a number of speakers including parish officials, fox hunters' representatives and a spokesman for the Louisiana Wild Life and Fisheries commission, spoke expressing their individual views on the fox hunters' plan to preserve their sport and at the same time eliminate any threat it might offer the countryside.

This gathering of fox hunters was most impressive in more ways than one. A happier, more wholesome group of people could not be imagined. That they were all sincere, God-fearing people was proved by the fact that they began their meeting with prayer. And, another unusual condition prevailed in that there was no evidence of intoxicants, insincerity or criticism of their fellow man. This was further evidenced by the fact that many of the hunters, admittedly veterans in the sport, brought their wives and children to enjoy the night's activities.

These things, to a man who was attending his first affair of this kind, were impressive as was the hospitality and good fellowship of everyone in attendance.

The least concerned with these preliminary festivities were the hounds themselves until the time arrived for the hunt to begin and then, in a matter of minutes, the piney woods and sand hills of the community were ringing with the bugling voices of the hounds as they struck the trail of Mr. Fox himself. Throughout the remainder of the night the hunt went on, a sport without firearms and without the fox hunters trailing the hounds. They, as one veteran put it, being completely satisfied to listen and surmise the progress of the chase.

To these hunters it's not the killing of the prey that counts,

unless the animal is unhealthy, then the hunters are the first to insist that a diseased fox be destroyed as it threatens not only the safety of the countryside but the continuation of their sport.

It will be extremely interesting to watch the result of similar hunts in that area where it was thought that the trapping of foxes by members of the predator control unit of the Louisiana Wild Life and Fisheries commission was the only means for the eradication of rabies that could become epidemic.

It is possible that this group of fox hunters may set a new pattern for the control of a healthy fox population in Louisiana. If, through these hunts, the rabies threat in Central Louisiana can be eliminated, it can be done elsewhere as well, and the fox hunters themselves will have struck a new chord in sportsmanship, in conservation and in wildlife protection.

Too often in the past it has been the custom for various types of hunters to seek outside help in the solution of their own problems. This group of fox hunters had only asked that they be permitted first to try to solve their own problems and then if they are not successful, they will welcome any assistance that might be available to them. The refreshing thing is, however, that they are not only willing to do the job themselves but that they can go about it in a manner that can only excite admiration for their sincerity and ingenuity.

And when you meet with these God-fearing people around their bonfires and under a canopy of stars, listen to their homely expressions and see their faces light up when the evening's prayer is offered, it somehow restores your faith in humanity and gives you the feeling that they can solve any problem that may arise.

"Got any game?" asked the warden.

"Sure, we know what we're doing. We got two pheasants and a red fox." Proudly, they displayed two robins and an Irish setter.

Oyster Season Closed In Three Parishes

The dredging for oysters in the parts of Lake Borgne and Mississippi Sound that lay within the boundaries of the parishes of Orleans, St. Bernard, and St. Tammany, will be forbidden beginning Sunday, March 31 and continuing until further notice according to the announcement made by Lamar Clement, Director of the Louisiana Wild Life and Fisheries commission, today.

This action was taken following its authorization by the Wild Life and Fisheries commission at its regular monthly meeting.

It was explained that the closing of these waters was necessary to give the small oysters on these water bottoms ample time to develop to commercial size.



Mrs. John Deer is shown with one of her eight month old puppies, out of championship stock from the famous Pine Ridge kennels of North Carolina. Mrs. Deer has already won on the bench with the puppy.

Wildlife Exchange



By W. C. Goins

These wild turkeys, brought in from another state, do remarkably well in Louisiana's forestlands.

THE SYSTEM OF BARTER, man's first civilized form of commerce with his fellow man, has always been supplanted by the medium of money exchange. In early America, when money was scarce, bartering or swapping was resorted to by our colonists as a means of obtaining from one another any desired goods or cattle or what not by mutual agreement. This system has long succumbed to the medium of the dollar. However, a new system of bartering is on the upgrade among some of our various wildlife and fisheries agencies of some states.

In recent years states have been making use of the barter system more and more frequently to their mutual advantage when supplies of wildlife have become depleted or vice versa. Where one state might be running short on one wild game

species but at the same time might be overpopulated with some other kind it would certainly be to their advantage to swap some of their surplus game, and save money in the process, for some that would supplement whatever they may be running short on.

The Louisiana Wild Life and Fisheries commission has had quite a bit of experience in this wild game species swapping. Back in 1949 when the agency was known as the Department of Wildlife and Fisheries, one of the first swaps got underway.

This first swap was with the Texas Fish and Game Commission and netted the State of Louisiana some 40 head of deer. It seemed that at that time, Texas was interested in obtaining some of our very abundant coypu, or nutria, as they are commonly called. It is very doubtful that this swap was made on a per each basis. Suffice it is to say that Louisiana got the deer.

The State of Texas is still going strong on the swapping idea. Some of these swaps have been on a three-state basis in order to get the desired species. For instance, North Dakota recently expressed the desire for a small stock of wild turkeys from Texas and has promised in return some aoudad sheep from California. This particular breed of sheep had originally been imported from North Africa and it is believed that the species will adapt itself to certain habitat found in some parts of Texas.

With the U. S. Fish and Wildlife Service clearing the way, Texas has sent surplus deer, turkey, raccoons, and other wild animals to other states. In return, it already has, or will receive, big horn sheep from Arizona, red-legged partridge from Spain, and see-see partridges from Pakistan.

One swap in which Texas participated was with the Audubon Park zoo in New Orleans. This trade dealt with a member of the almost extinct whooping crane family. This species has fought a losing battle for existence for several decades now and all-out efforts are being made by the U. S. Fish and



Jo and Crip seemed to find contentment in caring for one of their chicks that was hatched in the Audubon Park Zoo in New Orleans, La. (Photo by U. S. Fish and Wildlife Service)

Wildlife Service, the Audubon Society, the game agencies of the various states through which the cranes migrate, and many other nature-loving clubs and societies in this country, to protect the species.

In the Audubon Park zoo in New Orleans are two members of the whooping crane family. Known as Josephine and Crip, or Jo and Crip, this pair has made three unsuccessful attempts to raise a family. In 1955, Jo laid one egg near the fence of the enclosure in which the cranes are kept. Soon afterwards, Jo was so disturbed by a visitor to the zoo that she broke the egg.

The following year, 1956, Jo made another attempt, this time she produced two eggs, and both were hatched. Within two days, however, one chick disappeared but the other seemed to be slated for a more successful future. Hopes mounted but 45 days later, the chick became ill with a disease that proved fatal.

It is to be hoped that at some future date, Jo and Crip will be able to raise a family. If and when they do, it will be the first time that whooping cranes have been raised in captivity.

How the Audubon zoo acquired these cranes is interesting to note. Both cranes have suffered wing injuries and are incapable of sustained flight. Jo first came to the zoo in 1941 and is regarded as quite native by now. Crip, however, was brought in several years later through the cooperation of the U. S. Fish and Wild Life Service. He was found in Aransas refuge in Texas and a helicopter figured in his capture or rescue.

What the various states stand to gain from the swapping of the domestic species and the importation of the exotic species remains to be seen. The wildlife biologists and game managers are in accord, for the most part, on the requirements of our domestic species. They know the kind of cover to be desired and their research has pointed out the various type of feed that is needed at various times of the year.

Some of the foreign species could very well catch on as the pheasant has done in some of our mid-western states and furnish untold hunting possibilities. Some of these species are, no doubt, being released into habitat that will not furnish sufficient quantities of the necessary food requirements characteristic to the various species.

The problems confronting fish and game managers of this country are numerous. The solution to many of these will only be through extensive research and naturally, some of this research will require several years to complete. To furnish sufficient numbers of the wild game species in the face of an ever-increasing hunter population is no small task. The



Adaptability of "imported" turkeys is shown by their readiness to nest, as this illustration shows.

fact that many of our hunting areas are no longer suitable habitat for some of our domestic species could mean that future experimentation with exotic birds and animals will be stepped up considerably.

Some of the foreign game species are believed to be readily adaptable to similar habitat found in this country. This, it is hoped, will especially hold true with the bird species. If only these species that tend to, in some manner, replenish game that will hold the interest of the quail hunter, then progress will have been made.

Frogs and toads use their eyes to help them swallow. The eyeballs are pulled down and the food forced on down the throat.

Just before molting, ducks and geese fly to bodies of water where they will be safe from land enemies. The reason is because they molt their primary feathers all at once and, for a short period, cannot fly.



Head for the timber; the gate is open. These deer which were brought in from Texas on a swap seemed elated at the prospect of liberation into Louisiana's forests.



Here is a net full of brook bluegill that are to be sorted, paired and placed in hatchery ponds. Biologists say that pan fish such as the bluegill can't be fished out and recommend abolishing the creel limit on such species.



This is a typical fish-rearing pond at the Huey P. Long hatchery located at Lacombe.



Fish hatchery management and maintenance personnel tag a batch of bream before shipment to a farm pond in the Florida parishes.

Hatching

Fish

By Steve Harmon

THREE STATE FISH hatcheries located at Forest Hill, Lacombe, and Monroe produced approximately two million bass, bluegill and crappie for distribution in hundreds of lakes, streams and ponds throughout Louisiana during the past few months. And since the hatcheries are so located in the southern, central and northern sections of the state, distribution problems are kept at a minimum.

Under the supervision of trained biologists in the fish and game division of the Louisiana Wild Life and Fisheries commission, the hatcheries continue to rear fish for the restocking of lakes and ponds that have become fish scarce. Each hatchery also has a manager and operation and maintenance personnel. They are open to the public at all times for inspection.

The kinds of fish reared in the Louisiana hatcheries are largemouth black bass, Bluegill bream and Sac-a-lait or white perch. These have proved to be the most sought-after species of warm water fish that the hatcheries can produce both in quantity and quality and also more economical.

The bass spawn when the water reaches a temperature of approximately 75 degrees. More often this occurs during the months of March and April. The young fingerlings are cared for by the adult until they reach from one to two inches in length. The small fry then swim from the nest in schools and they remain together in school lots for as long as two weeks. Since the bass are a predaceous fish, the adults will feed on their young therefore hatchery managers remove the adult bass soon after spawning. In this way the hatcheries are assured of a large fish production from each spawning period.

When the young bass reach two to three inches in length, they are ready for stocking. At this period the hatchery ponds are drained and the fingerling bass removed.

Now comes the time when the baby bass are transported from the hatchery to the lake. They are placed in a specially designed fish transport tank supplied with oxygen and motored to various areas over the state where they are to be stocked.

After the hatchery ponds are drained and the little bass settled in their new homes, they are refilled with water and the brood bluegills are paired and placed in these ponds. The bluegill spawn from May through October. They also differ



Bluegills by the thousands are seined in one of the lowered ponds at the James A. Noe hatchery near Monroe.

from the bass in their food habits and they are not predaceous in nature so the adults may be left with the small fry until the ponds are emptied and the small fish removed.

Bluegills grow fast and soon reach stocking size. Distribution is more often made in late fall and winter. The same method of removal and distribution to stocking areas as with the bass is employed. Soon after the bluegill are removed, the ponds are refilled again with water and the cycle of the brood bass begins all over. By staggering delivery dates of fish and determining the spawning time, two crops of fingerlings can be raised each year at the three state hatcheries. The fish and game division of the Louisiana Wild Life and Fisheries commission says that the goal in hatchery management is a large production of fish each year at the lowest possible cost.

The biologists in the fisheries section are not only concerned with the rearing of fish and stocking of streams.

They are constantly checking all waters in the state for fish population; balance of game and rough fish and for the need of commercial fishing in many of our fresh water streams. It has been proved beyond a reasonable doubt that when the rough fish in any stream gets out of balance with game fish, the population of the game fish is threatened and it is then that the biologists recommend commercial fishing.

Water fluctuation in all of Louisiana's lakes and streams is another important factor when fish populations are concerned. Many of our biologists think that the only way to get rid of under water moss is by some form of water fluctuation. One way is to drain the lake or stream entirely thus letting the sun kill the moss. Another way is to construct a drainage structure that will create a current in order to drain out the moss very quickly. Still a third way to get rid of the under water moss is to muddy the water of the moss-infested lakes and ponds thereby killing the moss.

Lakes and streams stocked with bass and bream recently include: Calcasieu river, Old river in Beauregard parish, Clear lake in DeSoto parish, Carney lake in Beauregard parish, Lake Louie in Catahoula parish, Saddle creek in Tensas parish, Ten Mile creek in Allen parish, Whiskey Chitto creek, Cannis lake, Six-Mile creek, Iatt lake, Fort Buhlow lake, Joe's bayou, Pearl lake, Swan Lake, Cane river lake, and Clear lake in Richland parish.

Other bodies of water included: Lake Bruin, Bayou De-Saird, Lake Providence, Lake Concordia, Tew lake, Bursley lake and Black river lake.

In addition to the lakes and streams, more than 60 farm ponds, some new but most of them fish population scarce, were stocked with fish from the Huey P. Long hatchery at Lacombe, the Beechwood hatchery at Forest Hill, and the James A. Noe hatchery at Monroe.

Yes, Louisiana's three fish hatcheries are playing an important role in the restocking of the many lakes, streams and ponds throughout the state.

Hatchery reared fish are placed in specially designed tanks and trucks for delivery to lakes and ponds throughout Louisiana.





Hot

(1) A recent catch of largemouth bass out of Cane River Lake in Natchitoches Parish. It was in this 34-mile long snake-like body of water that the Louisiana Wild Life and Fisheries Commission recently conducted a fish poisoning and restocking program. The above photo is evidence of the success of the project. Now a hot spot for bass fishermen.

(2) Southwest Pass, the home of the fighting tarpon and oil rigs. Here the native and tourist alike find deep sea fishing to their liking.

(3) Grassy Lake. That's enough said for most of the folk around Central Louisiana. Here the big bass strike the top water plugs with the idea of pulling the fisherman from the boat. Here the limit is the rule rather than the exception.

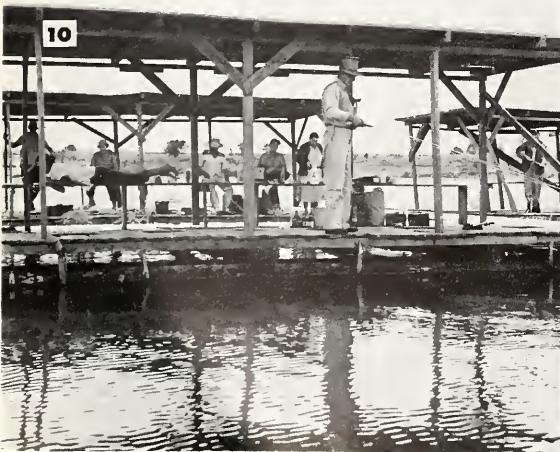
(4) Beautiful Lake St. John in Concordia and Tensas Parishes. This is a boating and fishing paradise and when the big bass school in the cypress flats, fresh water fishing is at its best. Between Ferriday and Waterproof.

(5) Fool River in the Catahoula and Franklin Parish area. The big white perch is proof that this body of water houses some of the lunkers of North Louisiana.

(6) Lake Bistineau in Webster Parish is one of the top hot spots in Louisiana. Recently a Shreveport detective caught the limit of largemouth bass that averaged five pounds. A beautiful body of water and a beautiful state park.



In





Spots

(7) Grand Isle, the poppa of them all. Here annually the Grand Isle Tarpon rodeo is held. Rated one of the top ten places to fish in the entire United States, Grand Isle offers the sportsman everything from crabs and shrimp to flying fish and whales. A must if you haven't been there.

(8) Manchac, and that covers thousands of miles of water and many species of fish. Here too, fish rodeos are held annually.

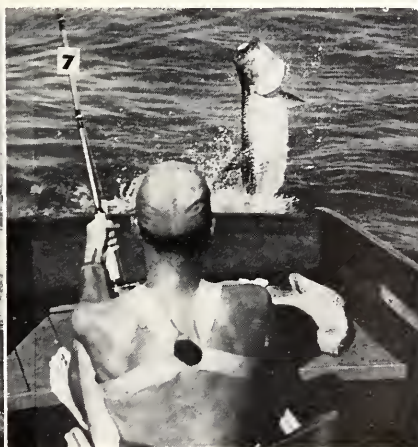
(9) Lake Concordia near Ferriday. One of those spots that run hot and cold. When it's hot the bass give the anglers plenty to take home and talk about. Centrally located, it offers many pleasant hours of fishing to Louisiana and Mississippi sportsmen.

(10) Old River near Morganza in Point Coupee Parish. It is here that the fisherman is treated to raft fishing. Big bass, sac-a-lait, and bluegill and chinquapin are the offering together with lazy fishing from huge rafts floating in the old bed of the Red.

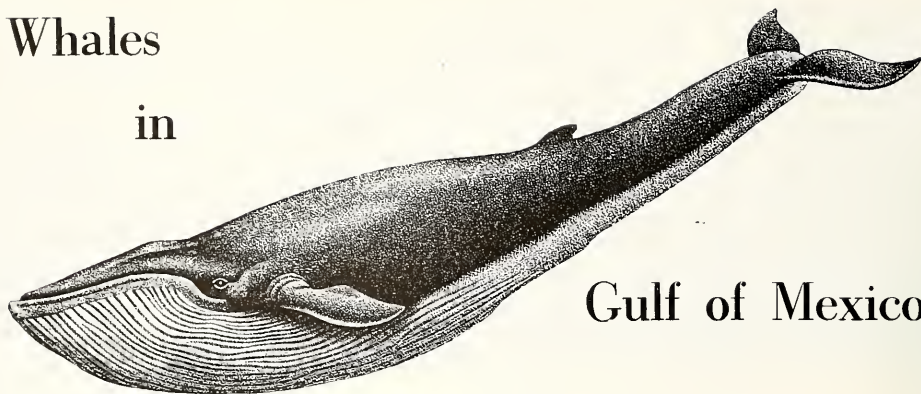
(11) Spring Bayou near Marksville in Avoyelles Parish and the hot spot of Central Louisiana. It is Spring Bayou that produces more fish per acre than any other body of fresh water in the state. This is truly a fisherman's paradise and it is a must on any angler's list this year. Big bass, huge chinquapins, and pound bluegill are caught here daily.



Louisiana



Whales in



Gulf of Mexico

By Ednard Waldo

THERE'S THE STORY of the Irishman who was asked whether there were any leprechauns in Ireland. To which the canny Gael replied, "There are no such things as leprechauns, but we know they are there anyway."

The same goes for whales in the Gulf of Mexico.

A compilation of data gathered over several decades by zoologists and mammalogists plus the fact that Tulane University scientists have recently completed the recovery of the skull and skeleton of a 37-foot Piked Whale from the marshes of Fort Bayou has aroused interest as to just how many of these monsters inhabit the unprobed depths of the Gulf.

The renewed interest had been further spurred by the reports from a group of fishermen who observed the whales from their yacht while participating in last year's Southwest Pass rodeo. The nimrods, all veterans of the tarpon chase, had been trolling in search of a record breaking grand eaille. Near the vessel they suddenly observed an enormous churning of the water and the emergence of a giant fluke from the depths; which flailed the surface with a noise and commotion that brought the entire crew to attention. "It's a WHALE," someone yelled. "Let's get out of here, THIS IS NO PLACE FOR US." The party which then had been fishing about forty miles out in the Gulf off Southwest Pass quickly sought more favorable fishing grounds.

On their return to the clubhouse the fishermen admit

having been a little apprehensive as to with what degree of credulity their story would be received by fellow nimrods. However, their "Whopper" was not only substantiated but also topped by the crew of another yacht. "Heck," said the other fishermen, "WHALES — we saw a whole school of them. Why in the —! do you think we came back in?"

So, as the late Al Smith used to say "Let's look at the record." Tulane's whale, according to Dr. Norman Negus, professor of zoology at the university, is a piked whale, the smallest member of the Finback family and is about 37 feet long, or nearly full grown for that species. The whale was discovered intact last April in Breton Sound at Fort Bayou and the scientist had staked the carcass out for a complete going over. However, hurricane "Flossie" came along and the perfect specimen was torn to bits and scattered over the marsh. Two months ago after many searches over a quarter of a mile area of marshlands, by a crew from Tulane's zoology department headed by Dr. Negus and Dr. Royall Sittkus, the skeleton was recovered and is now under observation at the university.

The finback whale is found in seas and oceans all over the globe and along with the blue whale is the mainstay of the whalers of today. Finbacks, in the Gulf area, have never existed in sufficient numbers to attract the attention of whalers although some have been taken in sporadic forays of our waters during the past hundred years. The nearest



Whales in the Gulf of Mexico are nothing new to Percy Viosca, biologist for the Wild Life and Fisheries commission. This whale was found on Pelican Island, February 13, 1917. Percy, seen in shorts and vest, was on his first assignment.



This is a snapshot of part of a school of forty-nine pilot whales or blackfish stranded on the beach near the mouth of Bayou Lafourche following the hurricane of August 1940.

real whaling grounds of the whalers of a century ago was the "Charlestown Ground" off the United States.

The finback is the second largest of the whales. Its big cousin, the Sulphur Bottom or Blue whale, is the largest animal ever to have inhabited the earth.

The true finback whale attains a length of 65 feet in the male and the female 82 feet. Remains of this species have been found along the Gulf coastal shores. The finbacks are most abundant in the temperate zone and its favorite food is small shrimp and other pelagic crustaceans and small fish. It runs in small schools and in even larger herds where there is abundant food.

In the early days of whaling the finback was avoided by whalers because they had learned from experience that attempts to take him were almost always disastrous because of its swiftness and maneuverability. However, a Scandinavian whaling captain Svend Foyn changed the whaling picture with his invention of the deadly bomb lance in 1865.

In the latter part of the nineteenth century, after the development of the bomb lance, Norwegians began using small iron steamboats equipped with whale cannon on the bow and steam winches for hauling in the hawser which was attached to the harpoon shank. The whales were either killed from the schooner or played until they were exhausted and hauled in and lanced from a whaleboat. Since these whales, which are known as rorquals usually sink when dead, there was an immediate advantage over the earlier method of awaiting the return of the carcass to the surface by gasses of decomposition. In this way the whale could be towed to the shore station and disposed of at leisure.

A finback whale of the larger species will yield an average of 25 to 50 barrels of oil. The oil's glycerine content, about 17 percent, makes it highly desirable in the manufacture of explosives such as nitroglycerine. There is also a large demand for the product in the manufacture of the finer grades of soap.

However, getting back to the record, it appears that there are a variety of whales which inhabit the Gulf or visit its waters. Charts and logs of whaling ships show that whalers well knew that the finback whale goes south of the Equator. Old ships' logs tell of whales having been taken occasionally in the Caribbean in the months of March and July when the whales were returning north. One was logged as having been taken a little beyond the mouth of the Mississippi. One stranding of a finback whale was reported on the East Texas coast in 1910 and two more in 1953. One of the latter was a new born male which made him a native of the Gulf.

In 1955, Earl Ittmann, a bar pilot, who was out fishing off the Chandeleur islands noted part of a large skull protruding from the beach and notified Edouard Morgan, Curator of the Wild Life and Fisheries Museum of Natural History, of the find. Morgan with John Ellington, Chief pilot for the commission, flew to the scene and found the skull to be that of a whale. Morgan and a crew unearthed the skull and found that it was part of the complete body of a whale which was buried in about two feet of sand. They later dug around the body and took measurements which showed the whale to have been between sixty and seventy feet in length and to have weighed from six to seven tons and that it was the carcass of a finback whale. Morgan's measurements and classification were further corroborated by other experts on marine mammals. The skull of this leviathan which Morgan loaded on the plane and brought back to New Orleans is now on exhibit at the Chartres Street museum.

In 1917 another finback whale, measuring nearly 64 feet, was found intact at Pelican island and photographed. Following the hurricane of 1940, 49 pilot whales, the largest measuring 18 feet, were stranded on the Gulf beaches near Bayou Lafourche, these small members of the whale family are also known as blackfish. Measurements and photographs



Drs. Norman Negus, standing, and Royall Sittkus, professors of Zoology at Tulane university, with the skull of the skeleton of a Piked whale they recovered from the marshes near Fort Bayou off Breton sound early this year. The Piked whale is the smallest of the Finback family who are residents or visitors in the Gulf of Mexico.



Edouard Morgan, curator of the Wild Life and Fisheries Museum of Natural History, is seen with the vertebrae of a whale he dug from the sands of the Chandeleur islands. Morgan brought the whale's skull to the Museum on Chartres street where it is on exhibit. The entire carcass of the whale which was between 60 and 70 feet long was measured for the records.

were made and the head of one of the animals was removed by Dr. George H. Lowery, Jr., of the Museum of Natural History of Louisiana State University and is on exhibit there.

So it seems there are whales in the Gulf of Mexico and you may never know which kind you will run across. It might be a Balaenoptera or a Globicephala. Scientists and fishermen are agreed they are there. But the question is: Who's going to get close enough to find out?

DOES ARE DEER!

By Helmut K. Buechner

Assistant Professor, Wildlife Management,
State College of Washington, Pullman

How can hunters harvest more deer and at the same time increase the production of the herd?

DOC EARLE shot a challenging glance at a defiant heckler and whipped his pointer back to the big flip chart. 'See that—Minnesota never had a 'buck law'. I grew up there and never knew there was such a thing as hunting bucks only. We killed either sex and they both tasted the same—and when we wanted an extra tasty treat we shot one with spots on it.' 'Doc' was just getting warmed up on his speech at the Whitman County Sportsmen's Association meeting in Pullman, Washington, on a wintery January 16, 1952. He was plenty confident because the committee of which he was chairman had spent months gathering facts on deer population and harvests from sixteen states. These facts all added up to the same conclusion—in support of annual either-sex deer hunts. Other members of the committee seated around the little table at the front of the room were: Verle Kaiser, Chris Hemstead, Virgil Reynolds, and myself. We were all participating in presenting our findings to the Association in hope of gaining support for a general policy of either-sex hunts in the state of Washington.

Before 'Doc' got through he had lined up the states without buck laws at the top of his chart and those with buck laws at the bottom. Most of the population figures in the chart are, of course, necessarily estimates, but they demonstrate that higher annual harvests and higher hunter-success ratios are correlated with either-sex seasons. Where possible the figures are averages for the past five years. In states where both sexes were shot an average of 21 percent of the population was harvested, or about twice the percentage where bucks only were harvested. All of the buck-law states had occasional antlerless seasons which raised the percent of harvest considerably above what it would be under strict buck seasons. The more liberal the antlerless season, the higher the harvest. When Pennsylvanians shoot either-sex, the kill may run over 150,000 with a harvest considerably above 14 percent and a correspondingly higher hunter-success ratio. As one might expect, hunter success was twice as high in states without buck laws—without hurting the deer herds.

But 'Doc' was just getting warmed up—and enjoying his talk more as he went on. He turned the page of the flip chart and carefully read the following conclusions derived from the Deer Committee's data. These facts were drawn primarily from the tabulated data and from scientific and popular articles sent in by state game departments. Much information was also given in many enthusiastic letters re-

The members of the Deer Committee of the Whitman County Sportsmen's Association encouraged me to write this article and provided the background upon which it is based. For helpful criticisms and suggestions I wish to express my thanks to Eugene S. Dietz, George C. Hudson, Carl V. Swanson, and the members of the Committee. I also wish to express my appreciation to the sixteen state game departments that provided the data for the Table and many of the pertinent conclusions which appear in the article.



Many fawns die of malnutrition, while others, such as the one above, are caught in high waters resulting from hurricanes and the overflow of rivers.

—Reprinted from the AMERICAN RIFLEMAN

ceived from game administrators and biologists. 'Doc' didn't want anyone to miss a single point, so he spelled it out slowly, emphatically.

1. The size of a deer herd depends on the carrying capacity (ability of the land to produce plants and animals) of the range. When a herd is too big for the range:
 - a. Many deer die of malnutrition. Deer dying this way are of no value to hunters.
 - b. Deer that do survive are small, weak and more subject to disease.
 - c. Does have only 75% fawn crop instead of normal 150% crop.
 - d. Deer encroach on farm land.
2. Buck laws provide a very poor mechanism for adjusting deer populations to the range. Killing bucks only doesn't materially affect the total deer population.
3. In seven states with buck laws, 11% of the total herd was harvested each year. Washington was omitted from this and the following three calculations.
4. In eight states without buck laws, 21% of the total herd was harvested each year.
5. In seven states with buck laws, 24% of the hunters were successful.
6. In eight states without buck laws, 48% of the hunters were successful.
7. It is important that sportsmen learn the facts of the case in their own states. This is a tough job in states that have long-standing, inflexible buck laws. Many hunters have the idea that 'does ain't deer!'
8. Sportsmen should become more familiar with the food habits of deer so they can recognize range conditions.
9. The states need more trained men on the ground to gather facts as to the condition of the game and range to guide commissions in the job of regulating the deer harvest.
10. Miscellaneous points:
 - a. Buck laws result in fewer trophy deer.
 - b. There are more 'license holders' in the woods now than before, but *fewer hunters*. There are too many hunting the roads only and making lots of noise in the woods.
 - c. With the great increase in license holders it isn't possible to provide each hunter with a kill each year.

Sportsmen must realize more enjoyment from the trip than from making the kill.

- d. At hunting time no one can tell which does did and which did not have fawns the previous spring.

The crowd was attentive, but getting more restless by the minute, eager to ask questions. Many of those present were confirmed buck hunters. Could all this really be true? Could a herd be harvested 30 percent and not decline? Is fertility really higher when both bucks and does are harvested? How can production be increased by increasing the kill? All this sounds like eating your pie and having it too. Impossible! We put off the hands, comments, and questions; and I got up to throw out some information. The room was darkened and we flashed three slides on the screen. The first showed a simple S-shaped curve. The growth of any animal population, including deer, follows such a curve. Starting out in an environment lush with food and cover, the population develops slowly because of the limited number of breeding individuals. Gradually a period of maximum increase is reached when large numbers of healthy breeders are present and food and cover is still sufficiently abundant to provide for the growing herd. A period of tapering off now follows as 'environmental resistance' increases. The resistance consists of starvation following food shortages, effective predators (like the cougar and wolf), parasites and diseases, and other direct-killing factors. Hunting would be included if it were heavy enough to have an effect. While the environmental resistance pushes down on the curve from above; factors within the population tend to pull the curve down so that it pushes up with less force. Such internal factors include decreased fertility and increased competition for food. Acting from outside and from within the population these factors tend to stretch the curve out horizontally.

All this sounded as if we were getting too 'scientific,' but while it smacked of the theoretical, it made sense. The next slide appeared in Aldo Leopold's *Game Management* in 1933. It simply demonstrated that harvesting bucks only does not materially influence the potential rate of increase. Taking the proper number of both does and bucks results in a stable, healthy population. Even such a 'stable' population fluctuates, of course, with droughts, severe winters, and changes in the vegetation.

One more facet needed to be put in place to complete the picture before we threw ourselves to the wolves. Adapting



The herd of deer above left their natural habitat to forage for food in an oat field on private property in Tensas Parish.



A typical "buck rub" in Madison Parish. Twenty years ago these same woods were dense and afforded ample food and cover for deer and other wildlife.

a diagram from studies made by Dr. D. I. Rasmussen of the U. S. Forest Service on the Kaibab Plateau near the Grand Canyon National Park in northern Arizona, the result of removing effective predators (mostly cougar in this case) was clearly shown. As a result of eliminating cougars, coupled with effective protection, the population shot from 4,000 in 1906 to 100,000 in 1924, only to crash 60 percent during the next two winters. The downward trend continued until the herd reached its present level of about 10,000. The most significant thing is that at least two-thirds of the *permanent* carrying capacity was lost. Instead of having 30,000 deer, as we might have had if the herd had been harvested heavily by taking either sex in 1918, we now have only one-third that number. The equivalent of the present total population could have been harvested annually from that 30,000. The Fishlake National Forest in central Utah stands as a perfect example of what might have been done to save the Kaibab range. Here deer were harvested by either-sex hunts, 207,000 being killed over the 28-year period, 1920-1947, while only 34,000 were removed from the Kaibab. Because of heavy removals, the Fishlake herd in 1947 was over *three times greater* than that of the Kaibab! The Kaibab range is now practically ruined; much soil has been lost and the vegetation is sadly overgrazed and overbrowsed. The few deer there still exceed the ability of the range to provide for them. Once a range is ruined it takes but few animals to keep it in poor condition. It is far better to somewhat overharvest a population than to permit the deer to exceed the range capacity. To make the situation even worse, sheep and cattle were introduced when the herds were building up, adding their effect to the depletion of the range. Obviously, the livestock had to be drastically reduced to prevent complete destruction of the range. The lesson to be learned from the Kaibab is that the total population of deer and livestock must be kept within the carrying capacity of the range or the result will be permanent loss of range in terms of soil and vegetation, with attendant reductions of deer populations.

The principles presented here apply not only to localized areas, but to deer management as a whole throughout the entire United States.

The impact of our whole presentation was terrific. Lively discussions followed, with Virg Reynolds acting as discussion leader. One sportsman commented that it scared him to death to think of losing permanently much of our deer range and with it the potential harvests. Another enthusiastically moved to abolish the buck law in the state of Washington, not realizing that this law had been abolished in 1947 and that the Department of Game had complete regulatory powers. He had the full support of nearly the entire group. While there is no buck law in the State at the present time, the Game

Commission has been under pressure to continue a policy of harvesting bucks only. During the nineteen years since the Director has had regulatory powers to set seasons and limits in 1933, there have been only two seasons in which hunters have been permitted to harvest substantial numbers of antlerless deer—27,334 in 1949 and 26,043 in 1950. Of course, there were the usual skeptics who remembered when the herds were depleted by unrestricted hunting. They called us 'game hogs' and 'doe killers,' basing their opinions on emotion and failing to face the facts. The idea of buck laws was so thoroughly ingrained by game administrators and biologists at a time when there was a need for building up herds that it is now difficult to re-educate sportsmen to the importance of adjusting herds to range capacities.

Pullman is a college town and a melting pot for people from all over the country, particularly the mid-west. The wide variety of ideas supporting either-sex harvests was nothing short of amazing. Most centered around the practical consideration that hunter success was higher where doe shooting was permitted. Idaho, Minnesota, Maine, and New Hampshire never had buck laws—yet the populations either increased or stabilized. In states where reductions were necessary to save the range, doe seasons were found to be the only effective measure to cut down the herds. Personal experiences were cited to disband fears of 'wiping out' populations overshooting the unwary does, increasing hunting accidents, and concentrating hunters in small areas.

The discussions dragged on into the night in one of the hottest meetings of the year. There was still a lot of thinking to be done, much of which had to be quiet meditation. So the committee was asked to have the report mimeographed. The thirteen-page report went out to members of the club, game commissioners, personnel of the State of Washington Department of Game, cooperating states, leaders in other clubs, and personnel of the U. S. Forest Service. The many letters of commendation and the wide-spread support that followed were entirely unanticipated. The Michigan Conservation Department asked for permission to reproduce the report for distribution to legislators, commissioners, sportsmen, and game personnel. The Forest Service requested additional copies. Sportsmen and game commissioners in Washington were largely in agreement with the findings of the committee. When sportsmen's clubs from six counties in southeastern Washington met on March 23 to recommend seasons, the entire group agreed that either-sex hunts were necessary and voted to accept the decisions of the biologists of the Department of Game. This was the first time in the history of these group meetings that all of the clubs were in complete agreement. Here was action from a sportsmen's group that carried more weight than the efforts of many biologists and game administrators in many states over the past two decades!

There were still many unsatisfied hunters. How did we get into this situation of overpopulations of deer? Certainly the buck law wasn't entirely responsible. There seem to be far more deer now than prior to the impact of the white man. Under natural conditions without the influence of man there are certain 'safety valves' that prevent deer from abusing their food supply and jeopardizing their very existence. One of these is effective predation; another is the adjustment of deer populations to a more-or-less stable vegetation. Man interferes by removing the cougar and wolf, and by cutting and burning the forest which then results in brushy vegetation that has a much higher carrying capacity for deer. Overgrazing ranges with livestock may also increase deer food, such as bitterbrush, sagebrush, rabbitbrush and juniper, by eliminating competition from grasses and permitting the shrubs to increase. The low palatability of many shrubs to livestock and the elimination of fires that maintained the grasslands further favor the increase of brush vegetation. All of these practices result in higher deer populations, which

is fine, provided adequate harvests are made to prevent the deer from exceeding their food supply. If left to nature's devices, the deer continue to increase beyond the capacity of the land to support them and they literally eat themselves out of house and home, the forest canopy closes over and shades out browse, and inevitably the population crashes through starvation and accompanying diseases, parasites, and predation. In March of this year young whitetail deer were dying from 'verminous pneumonia' on overcrowded winter ranges in northeastern Washington. Parasitic bots and mucus filled the throats and windpipes of the deer. When suffering from malnutrition, deer are no match for the intense environmental resistance to which they are subjected. In addition, fertility drops considerably and favors population decrease.

How can we harvest more deer and at the same time increase the productivity of the herd? This seemed to be the sixty-four dollar question in the minds of many hunters. Recall the S-shaped population curve. The maximum rate of increase occurred just below the levelling-out stage. The theoretical possible increase is slightly over 60 percent. If a population is allowed to level-out, it is at carrying capacity and tending to exceed that capacity. Fertility drops off considerably and we lose production in animals that are never born. On ranges in good condition annual increases are probably 30 to 40 percent; on ranges in poor condition the increases may be only 15 percent or even lower. There is a constant threat of population irruptions (sudden, excessive increases) as the herds strain against the limited food supply. We keep the range vegetation healthy and productive by keeping deer herds somewhat under the capacity of the most critical part of the range, usually the winter range. All this may make better sense to some people in terms of livestock. In a pasture of Herefords one would soon be in trouble if only the bulls were removed each year. The pasture grasses would be killed out, leaving a weedy dust pan. The animals would have to be maintained on supplementary feeds which would be prohibitively expensive. Fertility would drop to such an extent that the ranchman would lose money on low calf crops. On a 1,250-acre pasture in Texas one ranchman had 100 head of cattle in 1949; the calf crop was only 60 percent and the pasture was seriously overgrazed. The next year he reduced the herd to 65; the calf crop was 95 percent.

the range was in good condition, and over 8,000 pounds more beef was produced. Similar facts have been derived in Montana, New Mexico, and Arizona on experimental ranges of the Forest Service. Exactly the same principles hold for deer. Actually hunters are doing themselves a great injustice by not harvesting females. In the long run, over a period of 50-100 years, we are going to lose deer not only by not harvesting them, but also by permanently lowering the production of the range. By hunting both sexes, we not only make the herds produce more by keeping up fertility, but permit the range to improve and maintain itself. To date this is the only economically sound way to accomplish recovery of the vegetation on depleted ranges and to keep it at maximum production.

Just how to locate the point of maximum production and keep the deer herd at that point is a ticklish job—one for the trained biologist. The best way is to read signs in the vegetation. Regardless of the size of the deer population it must be kept in adjustment with the production of the food plants. When signs of stress appear among the most-favored browse plants, such as bitterbrush, mountain mahogany, maples, serviceberry, redstem ceanothus, northern white cedar, witchhobble, ground hemlock, birches, basswood, dogwoods, or whatever else is choice on a particular range, it is time to take heed of impending danger. When the second-choice plants, such as oceanspray, snowbrush, mock orange, balsam, spruce, and juniper become overbrowsed, an irruption may already be well underway. Die-offs, first among the fawns, then the does, and finally the bucks, soon become conspicuous, especially during hard winters. Damage to orchards, truck gardens, and hay fields soon shows up and an apparent need for winter feeding exists. Remember that any herd requiring winter feeding has exceeded its range capacity and is in an irruptive stage. Supplementary feeding only aggravates the situation and maintains the overdraft on the natural forage so that it becomes more and more depleted.

The final chapter in this story has not been written. Action by the Association culminated in a resolution to the Game Commission urging that careful attention be given to regulating the deer populations to the available range ca-

(Continued on page 21)

Annual harvest and hunter success ratio comparison between states with buck laws and those without

State	Buck Law?	Ever Had Buck Law?	Present Deer Population	Present Ratio Bucks : Does	Average Yearly Deer Harvest	Percent Total Deer Population Harvested Annually	Average Number Hunters	Percent Hunter Success	Optimum Deer Population	Ideal Ratio Bucks : Does
Idaho	No	No	125,000	1:1	35,000	28	90,000	39	125,000	1:1
Wyoming	No	Yes	89,700	1:4	24,400	27	45,800	52	100,000	1:4
Colorado	No	No	275,000	1:3.5	72,000	26	96,000	75	200,000	1:1
Utah	No	Yes	350,000	1:5.5	75,000	21	100,000	75		1:4
Montana	Yes	Since 1932	190,000	1:2.5	40,000	21*	80,000	50*		
Maine	No	No	200,000	1:1	40,000	20	160,000	25	300,000	1:1
Wisconsin	No	Yes, 22 yrs.	800,000	1:4	143,000	18	265,000	54		1:5
New Hampshire	No	No	60,000	1:1	9,300	16	70,000	13	60,000	1:1
Minnesota	No	No	500,000	1:1	72,000	14	140,000	51		
Pennsylvania	Yes	Since 1907	450,000	1:3	62,000	14	375,000	17	350,000	1:1
Michigan	Yes	Since 1921	900,000	1:4	115,000	13	400,000	29	700,000	1:1
Oregon	Yes	Since 1923	500,000	1:4	58,000	12	170,000	34		
Washington	No	Yes								
		1925-1947	350,000	1:3	40,000	11	181,900	22	320,000	1:3
New York	Yes		300,000	1:2	23,600	8	323,600	7	400,000	
Vermont	Yes	Since 1879	120,000	1:1.5	7,000	6	48,000	15	80,000	1:1
California	Yes	Since 1883	1,100,000	1:4	52,000	5	302,000	17	900,000	1:3

* High because of doe hunts last year.

Have You a Little Gecko in Your Home?

By Percy Viosca, Jr.

A STRANGE LITTLE Turkish beauty has invaded New Orleans and is here to stay. Night life is right down his alley. He is a shy little creature with beady brown eyes, so don't turn on the bright lights, or he will scurry to safety before you can say *Hemidactylus turcicus*. That Latin name is really a mouthful, but if you like, you can use the English equivalent, the "Turkish Gecko."

Since pre-biological days, Louisiana has harbored eleven species of lizards within her borders. Now the newcomer makes it an even dozen. But geckos are distinctly different from the lizards we have become accustomed to see around our yards and gardens. They come out to feed after night-fall and lurk only in dark places, usually high off the ground. They prefer brick or stone to wooden structures and usually hide by day in the cracks where the woodwork joins the masonry.

If you wish to answer for yourself the question posed in the title of this article, put out all lights that might show under the eaves, around windows, or under the ceiling of the front porch of your home. After a few minutes, search carefully with a flashlight or headlight. They may look like brownish leaves stuck against the house, but if you get too close, they are apt to dart away into the crevices which they call home. Adhesive pads on their feet enable them to run freely on walls and ceilings like flies or treefrogs.

If you do find a little gecko in your home, don't be alarmed for he (or she) is a friend of man and feeds on nocturnal insects such as mosquitoes, termites, roaches, moths, or what have you. And should you be tempted to catch one to observe its marvelous beauty, you needn't be afraid. This friend of man is really not very friendly at first and may try to nip you on the finger. He can't hurt you, however, but you can easily injure his tender, delicate, and almost transparent, skin.

Even when you are "sure" you have one under your hand, the chances are it is only a wiggling, jumping tail. A gecko will deliberately snap off its tail, so that while the pursurer is temporarily attracted by the bright jumping object, the pursued will have made good his escape. But you needn't feel sorry for the "poor little creature," for this is a protective device frequently employed by certain types of lizards to save themselves from their mortal enemies. Little or no bleeding results, and the lizard will grow a new tail, just in case you or the cat tries to make another grab at him. We see a similar sacrifice in crabs. Although they have no tails to throw at you, they will deliberately release one or more legs or claws to escape an enemy.

Whereas all native lizards feed during the day and sleep at night, these geckos, like most of their family, are nocturnal in habits. Even at night they are apt to run and hide when a light is thrown on them. They have large eyes with no eyelids, and bright light seems to be very objectionable to them. In light or dark, however, their eyesight seems to be equally keen. Perhaps this is because of their peculiar iris diaphragm. I have never seen one like it. There is a vertical slit, like in the rattlesnake or water moccasin, but even when the diaphragm is completely closed, four tiny round windows remain (Figure 1). It is like four pinhole cameras in one. No



They call him little Sir Gecko when seen around the eaves of homes in the New Orleans area, but his correct title is *Hemidactylus turcicus*. Sir Gecko brings to an even dozen the number of lizards known to live within borders of Louisiana. (Photo by Britt)

doubt the adjustment of this peculiar diaphragm gives them their keen vision.

An interesting feature of most members of the gecko family is the adhesive pads which enable them to walk on relatively smooth surfaces. In some groups there is a single pad at the end of each toe, in others, two. In the group to which our newcomer belongs, the adhesive structure is leaf-like and made up of a series of elongated pads, mostly in a double series which extend outward from the center line of each toe (Figure 2). Only the end segment of the toe is free from padding. It bears a small claw at the extremity. The nearest thing we have to this arrangement in our fauna is on the foot of the coot (poule d'eau to us), only the toe

expansions of the foot are not adhesive and are used for swimming, whereas the gecko uses his for climbing.

Throughout the years, the writer has seen a number of geckos taken in New Orleans. Like scorpions, tarantulas, centipedes, boa constrictors and a motley lot of other foreigners, these geckos are taken mostly on or near the docks, and are tropical varieties. They enter our port along with bananas, mahogany and other tropical cargo. They usually disappear after a time; but one treefrog, and now this unusual gecko, seem to have become permanent additions to our fauna and flora, along with Argentine ants and fire ants, a variety of roaches and other insects, several rats, and some of our most objectionable plants.

The gecko which has established itself here, however, is not a truly tropical species, although its range reaches the tropics in eastern Africa. Commonly called the Turkish gecko, its native range centers around the shores of the Mediterranean and Red Seas, and the Persian Gulf. In north Africa its range extends as far west as Morocco, and on the east coast of that continent down along the Red Sea through Italian Somaliland to Kenya. In Asia it extends along the Arabian Sea as far east as western India. It is also known from the Canary Islands, and the islands in the Mediterranean and in the Gulf of Aden.

In the Western Hemisphere it seems to have been introduced through commerce into the West Indies, Yucatan and no doubt into other tropical countries. In this country it has become firmly established in Key West and Miami, and is now making headway in New Orleans.

The Turkish gecko is not new to New Orleans. Henry B. Chase, Jr., a local biologist, has two specimens in his reptile collection which were taken on the night of May 26, 1945, by Herbert Morgan, who stated that he caught them crawling on window panes of a warehouse near the riverfront. I have seen a specimen taken several years ago near the Gentilly Terrace school and others were reported in that vicinity. The present study was accomplished through the kindness of Dr. and Mrs. George C. Miramon, who permitted me to observe the colony which lives under the eaves of their home at 4635 Spain Street. There are apparently dozens of them in this colony, and I have collected a few for study and for a permanent record.

The new gecko can be identified by the following characters, in addition to those already mentioned:—

The upper parts are creamy or yellowish brown and changeable. There are small dark spots scattered over this light background. The underparts are whitish or cream-colored, with fine dark spots showing mostly toward the sides. The scales on the upper surface are numerous, fine and resemble tiny beads. There are also several rows of prominent wart-like structures on each side of the center line of the back and many of these are keeled across the top. The warts are light colored and very conspicuous, especially towards the sides of the animal. The belly scales are flat and smooth, somewhat larger than the fine beads on the back, but smaller than the warts. The tail is about equal in length to the rest of the body, including the head, and the total length of a large specimen is about four inches.

Geckos lay eggs, as do our native lizards, but their life history is as yet unknown. Perhaps in their native region people are either too busy fighting or hunting something to eat to study lizards.

If you have good ears, you may hear them squeak, for these interesting lizards have a voice and are said to express themselves freely. The vibration is supersonic to some human ears.

In their new found land, these lizards adhere closely to man-made habitats, and no natural habitats seem suited to them. Maybe our outdoor climate is too moist, except under

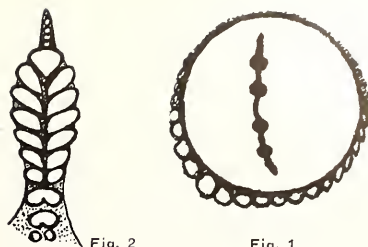


Fig. 2

Fig. 1

Diagram at left is of underside of fourth toe of right rear foot of Turkish gecko, showing leaf-like padding and free end joint. At the right is a diagram of right eye of Turkish gecko showing iris diaphragm with partly open slit and four small windows to admit light when diaphragm is closed. (Both diagrams drawn from life by Percy Viosca, Jr.)

the eaves. Remember they come from a land where moisture is at a premium.

So it seems that something beneficial has been added to our fauna, a creature that loves to stay around the house, one that can outwit and outclimb the cunningest cat.

DOES ARE DEER

(Continued from Page 19)

capacity throughout the State. Details of how to accomplish the desired harvests are being left to the administrators and biologists of the Department of Game. Only through shooting both sexes of deer will we be able to protect the range vegetation and eliminate wastes through winter die-offs. Probably the length of the season will have to be shortened where hunters have a choice of any deer. Jim Roberts pointed out that when we are sick we go to a doctor for treatment; and that if our deer populations and ranges are sick, then the problem is one for the biologist. Sufficient information is already available to adjust deer herds to available food supplies; but for better, more-refined management local current facts are needed. These facts can be gathered only through effective, long-term research. Big game is big business. In Washington over \$19,000,000, exclusive of license fees, was spent by resident hunters in the pursuit of big game in 1950. Most certainly a resource valued as high as this deserves the best possible management and research to insure its continued existence.

Sportsmen in Whitman County are out to maintain the production of deer and range vegetation—not to wipe out herds by hunting does or to gain higher hunter-success ratios for selfish, personal reasons. They have convinced themselves through the activities of their own members that 'does are deer.' Let me emphasize that the sportsmen themselves planned the study and gathered all the information from the different state game departments. They worked about eight months on the project before calling me in for technical advice to verify their findings. The facts added up clearly enough, but were so startling to hunters accustomed to thinking in terms of preserving deer through shooting bucks only that they were difficult to believe. As a result of the committee's efforts many hunters have changed their views on buck laws or regulations and favor proper deer conservation, which means wise use and preservation of the resource through adequate harvests of both sexes. In this way only will we be able to maintain our deer populations and provide the greatest good to those who love to hunt them.

Fire Ant Threat

By Ednard Waldo

ANTS ARE CLASSIFIED as social insects and you will find them practically everywhere. The ant is probably the most adaptable of all creatures. Depending on the species, ants will build their nests almost anywhere—under stones or wood in the open ground, in decaying trees and practically in any location that affords proper protection.

Ordinarily in this country the ant is regarded as a pest to be done away with by casual spraying or the setting out of some poison or other, however, today there is a new ant that has entomologists in most of our Southeastern states on their ears so to speak.

He is the Imported Fire Ant, a new species which has invaded not only our home garden but also is threatening our crops, wildlife and dairy herds. This ant has a most painful sting and has been known to cause serious illness in young children and on two occasions has been credited as a contributing factor in automobile accident deaths when its victims pinned helpless beneath their cars were attacked by swarms of these insects.

In St. Bernard parish, where the Imported Fire Ant infestation has taken over nearly two thirds of the crop and grazing land, the U. S. Department of Agriculture Entomologists and State and County agents are carrying on experiments in an effort to come up with a solution. And according to George Queen, St. Bernard County agent, only a full scale program backed by the Federal Government and State with the cooperation of every farmer and cattleman will bring about control of this pest which has invaded thirty-eight parishes to date and is still going strong. The St. Bernard parish situation has taken on an aspect that would fit a novel of the late H. G. Wells. In fields it feeds on okra, collard, cabbage, egg plant, germinating seed corn, and citrus trees and has been attacking newly hatched birds. In homes it eats meat, butter, cheese, and nuts, and it sometimes gnaws holes through clothing. Imported Fire Ants are very fond of quail and enter the pipped



George Queen, county agent for St. Bernard parish, is seen examining an Imported Fire Ant hill. The ants which are a menace to man, cattle, crops and farm beasts have infested two thirds of St. Bernard parish fertile land and are threatening 38 parishes in the state.

eggs to get them. They often chase brooding hens off their nests and eat their chicks.

In the cattle pastures, the situation is more evident and most alarming where they build numerous huge, hard-crustured mounds to house their colonies and the cattle will neither graze nor lie down in their proximity for fear of the ant which stings by sinking its powerful jaws into the flesh, then driving in its stingers with a slashing motion and injecting a powerful and irritating fluid into the wound. Newly born live stock and farm animals are particularly vulnerable to the Imported Fire Ant which is a voracious meat eater.

Entomologists say that these insects slipped into this country unnoticed, probably as stowaways from a South American port. Because they resemble our native Fire ant they remained unnoticed for several years. In 1930 entomologists identified them as a separate species.

Entomologists believe that these Imported Fire Ants first entered Mobile, Alabama, and then rapidly spread to other parts of the South by flying and crawling, by drifting downstream on logs, by traveling aboard cars, trucks, trains and automobiles, and by being transported in nursery stock. Today these pests are scattered over ten southern states.

They have spread as far north as Wake County, N. C.; west, to Harris County, Texas; and, south, through the Florida peninsula. The Mobile area is the largest continuous trouble spot.

It is believed that the Imported Fire Ant came to Louisiana in nursery stock or freight from Mobile where it first appeared in Opelousas, Lafayette, and New Iberia. In New Orleans, it has appeared in home gardens and lawns and many residents of the Lakeview and Metairie sections have been painfully bitten and young children have been reported ill from the bites.

Imported Fire Ants build mounds on almost any kind of soil. Some colonies exist on sandy and marshy lands near

the Gulf of Mexico shoreline and others in rich river valley soils.

The Imported Fire Ant is noted for its tenacity and quick comeback. In St. Bernard parish, County Agent Queen reports, one dairy farmer treated his pasture with both Clorodane and Deducin, known as the best insecticides to use for the control of imported fire ants and although the dairyman had given his pasture the ultimate treatment, the Fire Ants reappeared the next spring as strong as ever. The main reason for this is that other dairymen had not joined in with him in controlling their pastures. "The only way we can see our way out in this alarming situation is to have everyone join in a program for control," Queen says.

Imported Fire Ant mounds are most common in open areas such as cultivated fields, pastures, parks and lawns. The ants are often found in rotting logs and around pine stumps and occasionally around buildings.

Wherever they appear, the mounds create special problems. In parks and on lawns they mar the landscape and cause serious annoyance through their stings which produce a powerful burning sensation and welts. In a day or so the welt forms a pus pocket which solidifies under the skin and remains in the form of a white spot long after the swelling has gone down. These spots may mar the skin for several months until absorbed.

Children and pets often walk into the Imported Fire Ant mounds and have been severely stung. Several children have been reported hospitalized from the bites.

Imported Fire Ants seriously damage many vegetable crops by feeding on the young succulent plants. They soften the tender stems just below the soil and suck the plant juices. In this way they gnaw holes in roots, tubers, stalks, buds, ears and pods. The home flower garden is not exempt from this pest. His unsightly mounds ruin lawns and cause damage to the blades of the gardener's lawn mower.

A typical mound develops when the worker ants emerging from the queen's first brood begin enlarging her underground chamber. As additional workers appear, they join in



This is a typical Imported Fire Ant hill which is ruining pasture lands in St. Bernard parish. The insect is causing increasing damage to crops, livestock and farm animals. New Orleans and surrounding parishes are among the worst hit by the insect.

the task until a mound is built to accommodate the large ant population.

When completed, the structure has a firm honeycombed frame-work averaging 30 inches in diameter and 24 inches in height. The living quarters are subterranean galleries constructed within a V-shaped pattern and extending three feet downward.

On the outside, the mound appears to be a solid mass of earth. But after a heavy rain, workers can be seen crawling out of several holes in the surface to make repairs. When the job is done they quickly close up the openings.

Only the ants with wings leave the mound through the openings in the surface of the mounds when the ants are on the move. The workers leave only through tunnels built just below the surface of the soil. They emerge from these tunnels at various distances from the mound and return in the same way. The ants also use these tunnels when abandoning the mound when they move to another location.

The ants usually move from the mound when they locate a new source of food and build another mound around it. Or when the mound is so disturbed that it becomes untenable or when some other more formidable insects take over the mound or when it becomes too large to be manageable.

When the Imported Fire Ants get ready to move to a new location, which usually is about 25 feet from the old one, the worker ants take full charge. They guide the other ants through underground tunnels and they carry the eggs and immature insects to the new location.

The Imported Fire Ant should not be confused with the Atta Texana, or Texas leaf cutter, which also has invaded Louisiana via the Lone Star state. The Texas leaf cutter is a much larger ant and one of the leaf-cutting species which attacks trees and almost all forms of plants by cutting the leaves and converting them to fertilizer for underground



This bold bovine has ventured out into a St. Bernard pasture infested by the Imported Fire Ant. Ordinarily the pasture would be studded with livestock instead of ant hills. Cows keep a respectful distance from the hills of the flesh eating insects and thus pasturage area is eventually reduced to a minimum.

fungus gardens. In another article we will tell of this new menace and the damage it is causing in our state.

In appearance the Imported Fire Ant assumes three adult forms. The workers which are the most numerous are reddish to blackish red. Because of their similarity to the native fire ant they have been confused for them. The average Imported Fire Ant colony consists of about 25,000 workers and several dozen winged ants. The workers range from one eighth to one quarter of an inch in length. Most of the smaller workers come from the queen's first egg cluster and most of the larger ones from subsequent clusters.

The workers forage for food, maintain the mound and protect the colony. The larger workers are the better fighters as they have more powerful mandibles for biting and chewing and can store more fluid in their stingers.

The fertile winged ants are not often seen unless the nest is disturbed. They live in seclusion and take off on their one and only mating flight. When the mating flight is about to occur, there is a marked increase in activity in the colony. Workers make holes in the surface of the mound in several



Enlarged photograph of the larger type of worker ant in the Imported Fire Ant colony. There are two types of workers; the larger is usually from the second batch of eggs of the queen and does the fighting for the colony. The ants measure from one-eighth to a quarter-of-an-inch in length. The larvae is also shown in this photograph.

places. They run around excitedly on the surface of the mound and on nearby vegetation. At intervals a male or a queen will come out of the opening into the daylight.

The males are smaller and blacker than the queens. They take flight quickly and directly from the surface of the mound. The queens usually climb on nearby plants and slowly lift their bodies into the air.

Once airborne, the ants fly out of sight and mate in flight. The males die soon after mating and the fertilized queens find suitable nesting sites and cast off their wings as they have no further use for them. The queens then begin digging underground chambers in which to lay their eggs.

For control of the Imported Fire Ant, as has been said before, Chlorodane, Dieldrin and Heptachlor are the best insecticides, however, cooperation with the neighbors is essential as the ant must be controlled in the entire area or else a single man's effort will often prove fruitless.

At present, State Agricultural Entomologist E. A. Cancienne, estimates that in the 38 parishes in Louisiana affected by the

Imported Fire Ant there are from one and one-half to three million acres infested. The infestations seem to be the greatest in the Florida parishes, southwest Louisiana and in and around the city of New Orleans.

Garden owners may make use of emulsified powders for control which are available on the market for use in the preparation of sprays. There are also dusts containing these insecticides available.

The United States Department of Agriculture suggests that wherever possible, you plan your control campaign during the early spring. It is then that most of the ants are underground and the earth is moist enough to make the treatment more effective. In small, lightly infested places the individual mounds may be treated. However, spraying the entire soil surface is more practicable in heavily infested areas.

Despite the fact that the Imported Fire Ant's invasion seems insurmountable, agriculturists and entomologists are mapping a full-scale war for control and eradication. At a recent meeting in New Orleans, 125 officials, representing ten parishes in southcentral and southeastern Louisiana met to organize a public campaign.

The meeting which was the third such held in the state to organize committees, was sponsored jointly by the Louisiana Department of Agriculture, the state extension service and the Louisiana Farm Bureau.

Dr. Leo D. Newsom, head of entomology research at Louisiana State University, who was one of the speakers said, "Imported Fire Ant mounds are spreading at an alarming rate and it is not known just what the limits of the infestations are. Something has to be done or the situation may get out of control!"

State Agriculture Commissioner Sidney J. McCrory and Mr. Cancienne told the group that aid was coming from the Federal government and the state legislature would undoubtedly do its share. "The eradication plan as proposed is a big job and we have to move fast," they told the group.

Dr. Ashbrook, Fur Authority, Retires

Dr. Frank G. Ashbrook, veteran of 42 years in Federal employ, retired from his position of biologist with the branch of wildlife research of the U. S. Fish and Wildlife Service late in February, the Wildlife Management Institute reports.

In 1930 Dr. Ashbrook represented the United States as Commissioner General at the International Fur Trade Exposition and Congress in Germany. In 1937 he traveled extensively in the Orient under the direction of the Treasury Department to make a special investigation and to report on methods used by the Chinese in dressing lamb, kid, and dog skins. His information and work contributed to the negotiation of a Supplementary Trade Agreement between this country and Canada in 1939 as a means of protecting domestic fur farmers.

In 1942, Dr. Ashbrook was appointed to serve the Secretary of War as a special advisor on the use of furs and the fur industry, with particular attention to problems concerning furs and skins for cold climate clothing and flying suits. In addition he has served on several other special cooperative and coordinating committees.

He is the author of many books, including, "Fur Farming for Profit," "How to Raise Rabbits for Food and Fur," "Furry Friends," "Birds," and several others. In 1953 he was selected as the fur trade's Man of the Year and has the distinction of being the first recipient not directly engaged in the fur industry to receive that honor.

POISON IVY



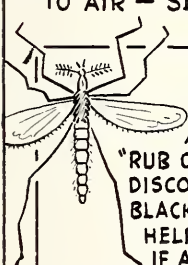
POISON OAK



POISON SUMAC



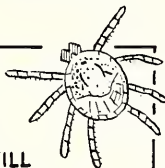
AVOID THESE PLANTS - BUT IF EXPOSED TO THEM WASH WITH A STRONG SOAP AS SOON AS POSSIBLE. DON'T USE A SCRUBBING BRUSH. IF IRRITATION APPEARS APPLY A SOLUTION OF BAKING SODA OR EPSOM SALTS - NO FATTY BASE OINTMENTS - LEAVE EXPOSED TO AIR - SEE YOUR DOCTOR



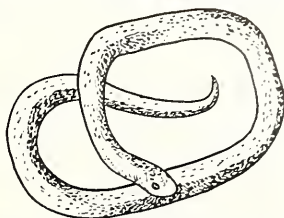
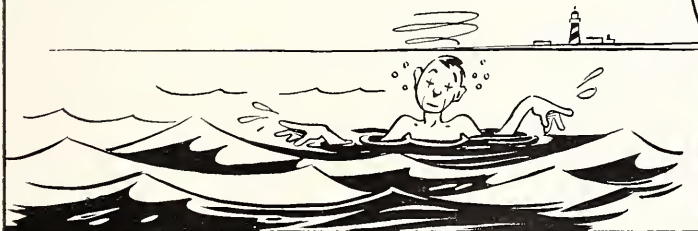
INSECTS---

A SMALL SPRAY GUN AND A GOOD INSECTICIDE OR A "RUB ON" INSECT REPELLANT WILL DISCOURAGE MOSQUITOES, MIDGES AND BLACK FLIES. A SIFTING OF SULPHUR WILL HELP AVOID TICKS AND "CHIGGERS".

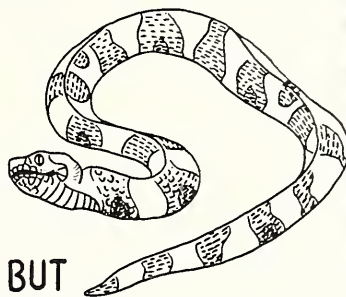
IF A TICK DIGS IN, DON'T PULL HIM OFF - TOUCH HIS REAR END WITH A FLAME AND HE'LL LET GO. CLEAR NAIL POLISH APPLIED TO A "CHIGGER" BITE WILL STOP THE ITCHING.



and-don't swim out too far!



THIS FELLOW (GARTER SNAKE) IS EASILY TAMED AND HARMLESS



BUT

THIS BOY (HIGHLAND MOCCASIN) IS DANGEROUS!

KNOW YOUR SNAKES!

BE CAREFUL WITH THESE!



AL BARRETT

GET A GOOD FIRST AID KIT!



The Geese Are Going North (*photo by Britt*)